

**Sunrise Academy**  
**PROJECT WORK**  
**CLASS:- 12th**  
**Maths**

**INSTRUCTIONS:-**

- ❖ Write the given project work in project files, having interleaf pages.
- ❖ The project should consist of 20-25 pages.
- ❖ The file need to be covered with white chart papers and cellophane sheets and the label should be printed and pasted.
- ❖ No coloring and decoration allowed on the cover.
- ❖ The projects will be evaluated and the student will be awarded marks out of 20 for the project work.
- ❖ The project should have the following subheading:-
  - Certificate.
  - Acknowledgement.
  - Content.
  - Bibliography

### **PAPER II – PROJECT WORK – 20 Marks**

Candidates will be expected to have completed **two** projects, one from Section A and one from *either* Section B or Section C.

**The project work will be assessed by the subject teacher and a Visiting Examiner appointed locally and approved by the Council.**

Mark allocation for **each** Project [10 marks]:

Overall format	1 mark
Content	4 marks
Findings	2 marks
Viva-voce based on the Project	3 marks
<b>Total</b>	<b>10 marks</b>

#### **Topics for Project Work:**

##### **Section A**

1. Using a graph demonstrate a function which is invertible.
2. Explore the principal value of the function  $\sin^{-1} x$  (or any other inverse trigonometric function) using a unit circle.
3. For a dependent system (non-homogeneous) of three linear equations of three variables, identify infinite number of solutions.
4. Explain the concepts of increasing and decreasing functions, using geometrical significance of  $dy/dx$ . Illustrate with proper examples.
5. Illustrate the concept of definite integral  $\int_a^b f(x) dx$ , expressing as the limit of a sum and verify it by actual integration.
6. Explain the conditional probability, the theorem of total probability and the concept of Bayes' theorem with suitable examples.

##### **Section B**

7. Using vector algebra, find the area of a parallelogram/triangle. Also, derive the area analytically and verify the same.
8. Find the image of a line with respect to a given plane.
9. Find the area bounded by a parabola and an oblique line.

**(Any other pair of curves which are specified in the syllabus may also be taken.)**

##### **Section C**

10. Draw a rough sketch of Cost (C), Average Cost (AC) and Marginal Cost (MC)

Or

Revenue (R), Average Revenue (AR) and Marginal Revenue (MR).

11. For a given data, find regression equations by the method of least squares.
12. Using any suitable data, find the Optimum cost by formulating a linear programming problem (LPP).

**NOTE:** No question paper for Project Work will be set by the Council.

## CERTIFICATE

This is to certify that \_\_\_\_\_ of class \_\_\_\_\_  
has successfully completed the project work on Maths for  
examination in the year of 2021-2022, under the guidance of  
Mr. Deepak Chandra. It is further certified that this project is  
the individual work of the candidate.

\_\_\_\_\_

Mr. . Deepak Chandra  
(Subject Teacher)

\_\_\_\_\_

External Examiner.

\_\_\_\_\_

Mrs. Nitu Tomar  
(Principal)

## ACKNOWLEDGEMENT

Primarily I would thank God for being able to complete this project with success. Then I would like to thank my subject teacher \_\_\_\_\_, whose valuable guidance has been the one that helped me patch this project and make it full prove success. His/Her suggestion and instruction has served as the major contribution towards the exhaustive of the contribution.

I would also like to extend my gratitude to the principal mam Mrs. NituTomar for providing all the facility that was required. Then, I would like to thank my parents and friends who have helped me with their valuable suggestions. Their guidance has been helpful in various phases of the completion of the project. Last but not the least I would like to thank my classmates who have helped me.

Date: \_\_\_\_\_ Name: \_\_\_\_\_

Class: \_\_\_\_\_

# **SUNRISE**

# **ACADEMY**

**SESSION 2021-22**

# **Maths**

**Made by:-**

**Name:-**

**Class:-**

